



Appendix A — Connector Pinouts

A.1 CP – Control Processor Module

A.1.1 Maintenance and Control Port (PC1)

Connector Type: DB-9 Female

Pin Number	Name	Description
1	DCD (O)	Data carrier detect
2	TD (O)	Transmit data
3	RD (I)	Receive data
4	DTR (I)	Data terminal ready
5	GND	Signal ground
6	DSR (O)	Data set ready
7	RTS (I)	Request to send
8	CTS (O)	Clear to send
9	–	Not used

A.1.2 Ancillary Data Port

Connector Type: DB-25 Female

Pin Number	Name	Description
1	FGND	Frame ground
2	RD (I)	Receive data
3	TD (O)	Transmit data
4	RTS (I)	Request to send
5	CTS (O)	Clear to send
6	DSR (O)	Data set ready
7	GND	Ground
8	DCD (O)	Data carrier detect
9 – 19	–	Not used
20	DTR (I)	Data terminal ready
21 – 25	–	Not used

A.2 Encoder Module

A.2.1 Analog Audio Inputs Connector: Female XLR

- 1 Ground
- 2 +
- 3 -

A.2.2 Digital Audio Input Connector: Female XLR

- 1 Ground
- 2 IN+
- 3 IN -

A.2.3 Ancillary Data Port Connector Type: DB-25 Female

Pin Number	Name	Description
1	FGND	Frame ground
2	RD (I)	Receive data
3	TD (O)	Transmit data
4	RTS (I)	Request to send
5	CTS (O)	Clear to send
6	DSR (O)	Data set ready
7	GND	Ground
8	DCD (O)	Data carrier detect
9 – 19	–	Not used
20	DTR (I)	Data terminal ready
21 – 25	–	Not used

A.3 Decoder Module

A.3.1 Analog Audio Outputs

Connector: Male XLR

- 1 Ground
- 2 +
- 3 -

A.3.2 Digital Audio Output

Connector: Male XLR

- 1 Ground -
- 2 OUT +
- 3 OUT -

A.3.3 Digital Audio Sync Input

Connector: Female XLR

- 1 Ground
- 2 SYNC IN +
- 3 SYNC IN -

A.3.4 Ancillary Data Port

Connector Type: DB-25 Female

Pin Number	Name	Description
1	FGND	Frame ground
2	RD (I)	Receive data
3	TD (O)	Transmit data
4	RTS (I)	Request to send
5	CTS (O)	Clear to send
6	DSR (O)	Data set ready
7	GND	Ground
8	DCD (O)	Data carrier detect
9 – 19	–	Not used
20	DTR (I)	Data terminal ready
21 – 25	–	Not used

A.4 E1 Multiplexer Module

A.4.1 Main E1 , Drop/Insert, and E1 Timing Ports

Connector Type: DB-9 Male

Pin Number	Name	Description
1	RCV +	Incoming E1 (+) or D/I
2	GND	Ground/shield
3	XMT +	Outgoing E1 (+) or D/I
4	—	
5	—	
6	RCV -	Incoming E1 (-) or D/I
7	GND	Ground/shield
8	XMT -	Outgoing E1 (-) or D/I
9	—	

A.4.2 E1 Test Port (Monitor Port)

Connector Type: DB-9 Male

Pin Number	Name	Description
1	DS2RCV +	Incoming E1 (+)
2	DS2XMT+	Outgoing E1 (+)
3	DIRCV+	Incoming D/I (+)
4	DIXMT+	Outgoing D/I (+)
5	GND	Ground/shield
6	DS2RCV -	Incoming E1 (-)
7	DS2XMT-	Outgoing E1 (-)
8	DIRCV-	Incoming D/I (-)
9	DIXMT-	Outgoing D/I (-)

A.4.3 E1 User Data Ports

Connector Type: DB-25 Female

Pin Number	Name	Description	Interface
1	FGND	Frame ground A	V.24/X.21
2	RD (I)	Receive data	V.24
3	TD (O)	Transmit data	V.24
4	RTS (I)	Request to send	V.24
5	CTS (O)	Clear to send	V.24
6	DSR (O)	Data set ready	V.24
7	GND	Signal ground	V.24/X.21
8	DCD (O)	Data carrier detect	V.24
9	TDA (O)	Transmit data A	X.21
10	CA (O)	Control element A	X.21
11	RDA (I)	Receive data A	X.21

12	IA (I)	Indicator element A	X.21
13	SA (I)	Timing element A	X.21
14	—		
15	—		
16	—		
17	BA (I)	Byte timing A	X.21
18	BB (I)	Byte timing B	X.21
19	—		
20	DTR (I)	Data terminal ready	V.24
21	TDB (O)	Transmit data B	X.21
22	CB (O)	Control element B	X.21
23	RDB (I)	Receive data B	X.21
24	IB (I)	Indicator element B	X.21
25	SB (I)	Timing element B	X.21

A.5 T1 Multiplexer Module

A.5.1 Main T1, Drop/Insert, and T1 Timing Ports

Connector Type: DB-9 Male

DB-9 Pin Number	Name	Description
1	RCV +	Incoming T1 (+) or D/I
2	GND	Ground/shield
3	XMT +	Outgoing T1 (+) or D/I
6	RCV -	Incoming T1 (-) or D/I
7	GND	Ground/shield
8	XMT -	Outgoing T1 (-) or D/I
4, 5, 9	-	Not used

A.5.2 T1 RJ-45 to DB-9 Adapter

RJ-45F Pin	DB-9F Pin
1	1
2	6
4	3
5	8

A.5.3 T1 Test Port (Monitor Port)

Connector Type: DB-9 Male

Pin Number	Name	Description
1	RX T1 (ring)	Incoming T1 (+)
2	TX T1 (ring)	Outgoing T1 (+)
3	RX D/I (ring)	Incoming D/I (+)
4	TX D/I (ring)	Outgoing D/I (+)
5	GND	Ground/shield
6	RX T1 (tip)	Incoming T1 (-)
7	TX T1 (tip)	Outgoing T1 (-)
8	RX D/I (tip)	Incoming D/I (-)
9	TX D/I (tip)	Outgoing D/I (-)

A.5.4 T1 User Data Ports

Connector Type: DB-25 Female

Pin Number	Name	Description	Interface
1	FGND	Frame ground A	V.24/X.21
2	RD (I)	Receive data	V.24
3	TD (O)	Transmit data	V.24
4	RTS (I)	Request to send	V.24
5	CTS (O)	Clear to send	V.24
6	DSR (O)	Data set ready	V.24
7	GND	Signal ground	V.24/X.21
8	DCD (O)	Data carrier detect	V.24
9	TDA (O)	Transmit data A	X.21
10	CA (O)	Control element A	X.21
11	RDA (I)	Receive data A	X.21
12	IA (I)	Indicator element A	X.21
13	SA (I)	Timing element A	X.21
14	—		
15	—		
16	—		
17	BA (I)	Byte timing A	X.21
18	BB (I)	Byte timing B	X.21
19	—		
20	DTR (I)	Data terminal ready	V.24
21	TDB (O)	Transmit data B	X.21
22	CB (O)	Control element B	X.21
23	RDB (I)	Receive data B	X.21
24	IB (I)	Indicator element B	X.21
25	SB (I)	Timing element B	X.21

A.6 ISDN 3BRI Module

A.6.1 ISDN U Interface

Connector Type: RJ-45

Pin Number	Name
1	Not used
2	Not used
3	Not used
4	U interface network connection (Tip)
5	U interface network connection (Ring)
6	Not used
7	Not used
8	Not used

A.6.2 ISDN S/T Interface

Connector Type: RJ-45

Pin Number	Name
1	Not used
2	Not used
3	Transmit (+)
4	Receive (+)
5	Receive (-)
6	Transmit (-)
7	Not used
8	Not used

A.6.3 RS-232 Anc Data Port

Connector Type: DB-9 Female

Pin Number	Name	Description
1	DCD (O)	Data carrier detect
2	RD (I)	Receive data
3	TD (O)	Transmit data
4	DTR (I)	Data terminal ready
5	GND	Signal ground
6	DSR (O)	Data set ready
7	RTS (I)	Request to send
8	CTS (O)	Clear to send
9	—	Not used

A.7 Codec Module

A.7.1 Analog Audio Outputs

Connector: Male XLR

- 1 Ground
- 2 +
- 3 -

A.7.2 Digital Audio Output

Connector: Male XLR

- 1 Ground -
- 2 OUT +
- 3 OUT -

A.7.3 Analog Audio Inputs

Connector: Female XLR

- 1 Ground
- 2 +
- 3 -

A.7.4 Digital Audio Input

Connector: Female XLR

- 1 Ground
- 2 IN+
- 3 IN -

A.7.5 Ancillary Data Port

Connector Type: DB-9 Male

Pin Number	Name	Description
1	FGND	Frame ground
2	RD (I)	Receive data (Encoder input data)
3	TD (O)	Transmit data (Decoder output data)
4	No Connect	Not used
5	No Connect	Not used
6	No Connect	Not used
7	GND	Ground
8	No Connect	Not used
9	No Connect	Not used

A.8 X.21/V.35 Digital Interface Module

Refer to Chapter 10 for details on the X.21/V.35 interface connectors.

X.21 LOCAL Module Port Pinouts

Pin Number	Name	Direction	Description
1	FGND	-	Frame ground A
2	TDA	Input	Transmit data A
3	CA	Input	Control element A
4	RDA	Output	Receive data A
5	IA	Output	Indicator element A
6	SA	Output	Timing element A
7	BA	Output	Byte timing A
8	GND	-	Signal ground
9	TDB	Input	Transmit data B
10	CB	Input	Control element B
11	RDB	Output	Receive data B
12	IB	Output	Indicator element A
13	SB	Output	Timing element B
14	BB	Output	Byte timing B
15	-	-	Not used

V.35 LOCAL Module Port Pinouts

Pin Number	Name	Direction	Description
1	FGND	-	Frame ground A
2	TDA	Input	Transmit data A
3	RTS	Input	Request to send
4	RDA	Output	Receive data A
5	-	-	Not used
6	RETA	Output	Receive timing A
7	TETA	Output	Transmit timing A
8	GND	-	Signal ground
9	TDB	Input	Transmit data B
10	DTR	Input	Data terminal ready
11	RDB	Output	Receive data B
12	RLSD	Output	Receive line signal detect
13	RETB	Output	Receive timing B
14	TETB	Output	Transmit timing B
15	CTS	Output	Clear to send

X.21 Network Module Port Pinouts

Pin Number	Name	Direction	Description
1	FGND	-	Frame ground A
2	TDA	Input	Transmit data A
3	RCA	Input	Receive Clock A
4	RDA	Output	Receive data A
5	IA	Output	Indicator element A
6	SA	Output	Timing element A
7	BA	Output	Byte timing A
8	GND	-	Signal ground
9	TDB	Input	Transmit data B
10	RCB	Input	Receive Clock B
11	RDB	Output	Receive data B
12	IB	Output	Indicator element A
13	SB	Output	Timing element B
14	BB	Output	Byte timing B
15	-	-	Not used

V.35 Network Module Port Pinouts

Pin Number	Name	Direction	Description
1	FGND	-	Frame ground A
2	TDA	Input	Transmit data A
3	RCA	Input	Receive Clock A
4	RDA	Output	Receive data A
5	-	-	Not used
6	RETA	Output	Receive timing A
7	TETA	Output	Transmit timing A
8	GND	-	Signal ground
9	TDB	Input	Transmit data B
10	RCB	Input	Receive Clock B
11	RDB	Output	Receive data B
12	RLSD	Output	Receive line signal detect
13	RETB	Output	Receive timing B
14	TETB	Output	Transmit timing B
15	CTS	Output	Clear to send

Appendix B - ISDN Ordering And Provisioning

B.1.1 North American ISDN Ordering Contacts

Ameritech	800-TEAMDATA
AT&T	800-222-7956
Bell Atlantic	800-570-ISDN
Bellcore	800-992-ISDN
BellSouth	800-428-ISDN
Cincinnati Bell	800-566-DATA
GTE	800-888-8799
MCI	800-MCI-ISDN
Nevada Bell	702-333-4811
Pacific Bell	800-4PB-ISDN
Rochester Telephone	716-777-1234
SNET	203-553-2369
Sprint	913-624-4162
Stentor Canada	800-578-ISDN
Southwestern Bell	800-992-ISDN
US West	800-246-5226 or 303-896-8301
Wiltel	918-588-5069

B.1.2 North American ISDN Provisioning

In an effort to make ISDN ordering and provisioning as easy as possible, we recommend faxing the following five pages to your ISDN service provider. If provisioned as shown on these pages, your ISDN circuit will work with your *TEAM*. If given a choice between AT&T Custom or National ISDN, we recommend National ISDN. Also note that **when ordering ISDN service, you must ask for long distance**

service and specify a carrier. Unlike regular telephone service, long distance is not automatically provided.

FAX-PAGE 1

B.1.3 AT&T 5ESS Custom

Request from the telephone company an ISDN line in a "Point To Point" configuration with 2B1Q line code. Your ISDN line must be configured to allow circuit switched data on both B-channels and signaling on the D-channel. Request that the telephone company program your ISDN line with the following attributes:

- Maximum terminals set to 1 (this tells the switch that there is 1 terminal active on this line.)
- Maximum B-channels set to 2; Actual User settings (this tells the switch that you are an actual user and may use both B-channels simultaneously.)
- Circuit switched data set to 2; circuit switched data channel set to any (this tells the switch that you may use both B-channels simultaneously. The "Any" tells the switch that either B-channel can be used for data.)
- Terminal type is Type A - Basic Terminal (this tells the switch you are a basic ISDN terminal.)
- Display set to Yes (this tells the switch that you have display capabilities.)
- Call appearance quantity set to 1 (this tells the switch that you want 1 appearance of your primary telephone number.)
- Call appearance preference set to Idle (this tells the switch that your software will make a positive choice of which call appearance it will use to initiate a call.)

The Telephone Company will also need to know any additional voice features that you require on your ISDN lines. Examples of these features are Caller ID and Call Forwarding. PLEASE REMEMBER TO SPECIFY A LONG DISTANCE CARRIER.

FAX-PAGE 2

B.1.4 AT&T 5ESS - National ISDN 1

Request from the telephone company a National ISDN 1 ISDN line in a "multipoint" configuration with 2B1Q line code. The optional "multipoint" configuration will allow you to have a separate telephone number for each B-channel; however, it will physically be only one ISDN line. The Telephone Company should supply you with a different telephone number and SPID (Service Profile Identification) for each B-channel in a multipoint arrangement. Your ISDN line must be configured to allow circuit switched data on both B-channels and signaling on the D-channel. Request that the Telephone Company program your ISDN line with the following attributes:

- Maximum terminals set to 2 (this tells the switch that there are 2 terminals active on this line.)
- Maximum B-channels set to 2; Actual User settings (this tells the switch that you are an actual user and may use both B-channels simultaneously.)
- Circuit switched data set to 2; circuit switched data channel set to any (this tells the switch that you may use both B-channels simultaneously. The "Any" tells the switch that either B-channel can be used for data.)
- Terminal type is Type A - Basic Terminal (this tells the switch you are a basic ISDN terminal.)
- Display set to Yes (this tells the switch that you have display capabilities.)
- Circuit switched data limit set to 2 (this tells the switch that you may receive 2 data calls.)
- Call appearance preference set to Idle (this tells the switch that your software will make a positive choice of which call appearance it will use to initiate a call.)

The Telephone Company will also need to know any additional voice features that you require on your ISDN lines. Examples of these features are Caller ID and Call Forwarding. PLEASE REMEMBER TO SPECIFY A LONG DISTANCE CARRIER.

FAX-PAGE 3

B.1.5 AT&T 5ESS — Custom

- 2B1Q line code
- 2B&D line - Point To Point
 - B1 - circuit switched voice/ data
 - B2 - circuit switched voice/ data
 - D - signaling only
 - set MTERM to 1
 - set MAXB CHNL to 2; ACT USR to Y
 - set CSD to 2; CSD CHL to ANY
 - set TERMTYP to TYPE-A; DISPLAY to Y
 - set CA QTY to 1
 - set CA PREF to I
- list any additional data features required
- specify long distance carrier

B.1.6 AT&T 5ESS — National ISDN

- 2B1Q line code
- 2B&D line - Standard
 - B1 - circuit switched voice/ data
 - B2 - circuit switched voice/ data
 - D - signaling only
 - set MTERM to 2
 - set CHNL to 2; ACT USR to Y
 - set CSD to 2; CSD CHL to ANY
 - set TERMTYP to TYPE-A; DISPLAY to Y
 - set CSD limit to 2
 - set CA PREF to I
- Optional - multipoint; different DN for each B-channel, but same OE (office equipment.)
- list any additional data features required
- specify long distance carrier

FAX-PAGE 4

B.1.7 Northern Telecomm DMS-100 BC-35 National ISDN 1

Request from the telephone company a National ISDN 1 ISDN line with 2B1Q line code. Your ISDN line must be configured to allow circuit switched data on both B-channels and signaling on the D-channel. The telephone company should supply you with a separate telephone number and SPID (Service Profile Identification) for each B-channel; however, it will physically be only one ISDN line. Request that the Telephone Company program your ISDN line with the following attributes:

B1 and B2 should be set as follows:

- Set the circuit switch option to Yes; set the barrier restriction option to no packet mode data (NOPMD) only (this tells the switch that you require circuit switch ability on your B-channel, The bearer restriction on your line means that you are not allowed packet data on your B-channel.)
- Set protocol to function version 2; (PVC2) (this tells the switch that your CPE software is using National ISDN 1 protocol.)
- Set the service profile identification (SPID) suffix to 1 (this tells the switch that the digit following your telephone number will be 1. The SPID format is *area code + 7 digit number + 1 + 00*.)
- Set the Terminal Endpoint Identifier (TEI) to Dynamic (this tells the switch that you can accept any TEI value from 64 to 126.)
- Set Ring to Yes (this tells the switch to send an alerting message to your CPE when there is an incoming call.)
- Set the maximum keys to 10 (this tells the switch how much memory to allocate for features.)
- Set Key system (EKTS) option to No (this tells the switch that you are not a key system.)
- Place the lower layer compatibility option for data on the B-channels (this tells the switch that your CPE may utilize the lower layer compatibility information element for data on the B-channels.)
- Place calling subaddress option for data on the B-channels (this tells the switch that your CPE will send a subaddress.)
- Place called subaddress option for data on the B-channels (this tells the switch that your CPE can receive a subaddress.)

The Telephone Company will also need to know any additional data features that you require on your ISDN lines.

B.1.8 Northern Telecomm DMS-100 BC-35 National ISDN 1

- 2B1Q line code
- 2B&D line
- B1 - set circuit switch to YES; set BEARER RESTRICTION to NOPMD (no packet)
 - functional version 2; (PVC 2)
 - set SPID-SUFFIX to 1
 - set TEI to DYNAMIC
 - set RING to YES
 - set MAXKEYS to 10
 - set EKTS to NO
 - set data option: PROVLLC CMDATA (lower layer compatibility)
 - set data option: PROVCGS CMDATA (calling subaddress)
 - set data option: PROVCDs CMDATA (called subaddress)
- B2 - set circuit switch to YES; set BEARER RESTRICTION to NOPMD (no packet)
 - functional version 2; (PVC 2)
 - set SPID-SUFFIX to 1
 - set TEI to DYNAMIC
 - set RING to YES
 - set MAXKEYS to 10
 - set EKTS to NO
 - set data option: PROVLLC CMDATA (lower layer compatibility)
 - set data option: PROVCGS CMDATA (calling subaddress)
 - set data option: PROVCDs CMDATA (called subaddress)

list any additional data features required for B1 and B2

Appendix C — Streaming Audio

The *TEAM* system can be the backbone of a multi-channel MPEG Layer 3 audio server. All Layer 3 bit rates between 64 and 320 kb/s are supported, as is 32 or 48 kHz sampling. Only the number of encoder modules limits the number of audio channels. A fully loaded *TEAM* can therefore support twelve audio channels, and multiple *TEAM* mainframes can be stacked to support many more streams. Each encoder module can operate at a different bit or sample rate. Equip the *TEAM* with decoder modules as well, and you can even stream audio received from anywhere in the world!

C.1 Listener Requirements

For the listener, there are no special requirements other than Windows Media Player version 7.0 or later (and a processor capable of supporting this) and access to a network at a rate faster than the streaming bit rate. For example, for streaming audio at 64 kb/s, a dial-up modem connection is not acceptable, even at 56 kb/s.

C.2 The Server

Connect the 10 base-T network port on the *TEAM*'s Control Processor module to a network interface port on a 'Windows NT 4.0' or 'Windows 2000' Server using a straight-through CAT-5 cable. Do not use 'crossover' cables. In almost all instances, this connection would be made through a hub or router. If no router or hub is used, at least two NICs are required in the server. As with all network connections, care must be used with respect to wire, connector quality and cable lengths.

The minimum server requirements are:

Processor	Pentium class
Processor speed	≥ 233 MHz
Memory	≥ 64 K
Operating system	Windows NT 4.0 , ≥ SP5 (SP6 recommended), Windows 2000

Table C-1 Server System Requirements

Currently, the maximum number of connections supported is 16.

The software required for the Format Server can be obtained from MUSICAM USA. Install the three files using our self-extracting installer. Once installed, there are three files associated with the server:

- FormatServe.exe - This executable retrieves streams of audio from a *TEAM* and makes it available to the Windows Media Server/Player. It can be configured to accept audio from any *TEAM* unit visible on the network and make this audio available on any port number, to which the Media Server must connect. It is this program with which the user interacts.
- FormatServer.hlp - This is an on-line help file
- StreamChan.exe - This is an executable utility, and this file must be in the same directory (folder) as FromatServe.exe. The act of starting and stopping an audio stream starts and stops this process.

An additional Windows media Format encoder file, WMFDist.exe, is needed for the NT or 2000 server, and is provided by MUSICAM USA.

C.3 TEAM Setup

The *TEAM*, in addition to having a network card (T1, E1, or 3-BRI ISDN) installed, must be given an IP address as well. If not already set at the factory, you can set the IP Address using the **XIA Command**.

XIA n.n.n.n:sn

n.n.n.n	=	IP address	wher n=any decimal number from 0-255
Sn=Subnet Mask	=	Sunnet mask	entered in Hex format

XIA ? - Show current internet address

Sample: Set IP address to 155.155.155.1 with a Subnet Mask of 255.255.255.0

XIA 155.155.155.1:ffffff00

Note:

The *TEAM* must be re-booted following any change to the IP address

The IP address can also be set manually, as follows:

- Turn on the *TEAM* unit or re-boot if already on.
- When the display says "**Press any key to stop auto-boot...**" stop the boot by hitting any key on the console attached to the *TEAM*. At that point, the following prompt should appear:

CP BOOT>

- Use the 'c' command to single-step through the boot parameters. After typing 'c' and hitting the return key, each additional press of the return key will step through the next boot parameter. Pressing the '-' key, and then Return, will bring you to the previous parameter, and pressing the '.' (period) key and Return clears the current field.
- Change the value of **inet on ethernet (e)** to an appropriate IP address and subnet mask.

For instance, to assign the IP address 192.168.0.10 and subnet mask 255.255.255.0 to your *TEAM*, you would do the following:

```
CP BOOT> c ↵
```

Make sure all the following parameters are set as shown. Parameters not shown here are left as is:

```
boot device      : cpm
processor number : 0
inet on ethernet (e) : 192.168.0.10:ffffff00
flags (f)        : 0x0
target name (tn) : MusicamCP
other (o)        : CPSYS
```

Continue pressing the return key until you get the **CP BOOT** prompt. Check all parameters by entering the 'p' command at this prompt:

```
CP BOOT> p ↵
```

The display will now look similar to this (note that some values may be different):

```
boot device      : cpm
unit number      : 0
processor number : 0
host name        : e=205.197.242.120
file name        : fffffff00
inet on ethernet (e) : 192.168.0.10
gateway inet (g)  : 205.197.242.129
flags (f)        : 0x0
target name (tn) : MusicamCP
other (o)        : CPSYS
```

```
CP BOOT>
```

At this point, if your *TEAM* CP software is version 1.8.1 or later, you can re-boot the *TEAM*. If the CP software is earlier than this, please contact MUSICAM USA.

C.4 Enabling Streaming Audio

In order to enable the output stream, a sub-channel connection from some source port (any network card) to any port of the CP card in slot 0 must be established. (For this example we use port 'A') When properly configured, the streaming software will check the command and machine state for validity and begin the flow of data out through the Ethernet port. Please

note that slot 0, ports A through P are the only valid destinations. Follow these steps:

- Set the *TEAM* IP address (as above)
- Set the algorithm to MPEGL3
- Set the sample rate to 32 or 48 (kHz)
- Use the **NMC** command to map the encoder to the Network module. In the following example, the encoder is in slot 2 and the network module is in slot 4. The bit rate is 128 kb/s therefore the number of time slots used is 2, and for this example, we're selecting channel group 1.

NMC 2a 4n 2 1

- Use the NMC command to map the Network module to the Control Processor:

NMC 4n 0a 2 1

Additional audio channels from additional encoders can be added similarly, selecting a different channel group and a different Control Processor port.

C.5 Configuring the Format Server

When the output stream is enabled, a Format Server configured with the *TEAM*'s IP address can stream the audio data from the *TEAM*.

Upon running the format server program for the first time, you must configure the server to recognize any *TEAM* units connected to it. Since multiple *TEAMS* can be supported, you can use the format server main screen, shown in Figure 10-1, to manage the available units for streaming:

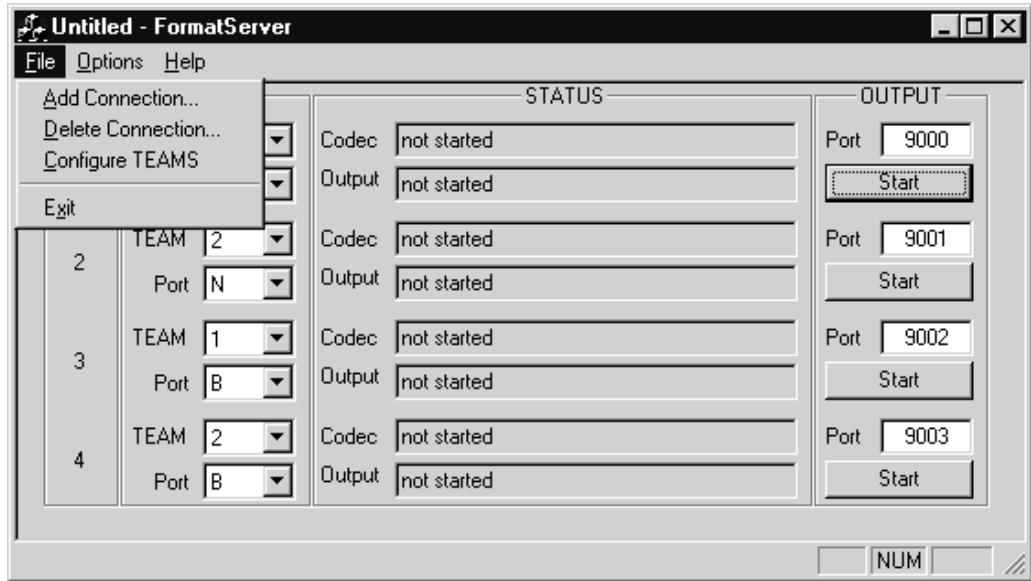


Figure C-1 Format Server Main Screen

From the 'File' menu, choose 'Configure *TEAMS*'. To add a *TEAM*, click the 'ADD' button from the Configure *TEAMS* window, shown in Figure 10-2, and enter the IP address of the *TEAM* in the Add IP dialog that appears, shown in Figure 10-3.

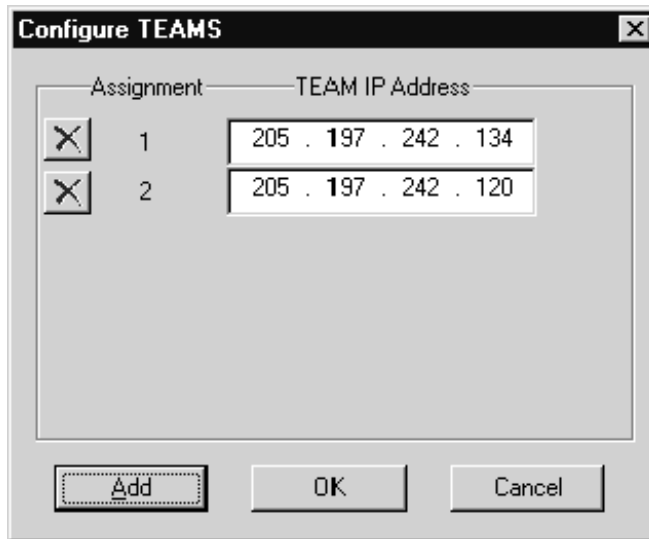


Figure C-2 Configure *TEAMS* Window

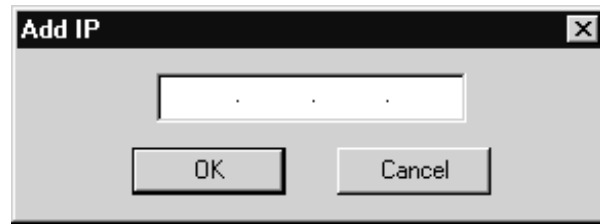


Figure C-3 Add IP Address Window

Click the **OK** button to save the *TEAM* IP address and return to the **Configure TEAMS** dialog box. At this point, click the **OK** button to save the configuration or the **ADD** button to add additional *TEAM* units before saving. The number under the 'Assignment' column is the *TEAMS* ID number, and is used to make connections to it.

To remove a *TEAM* from the set, click the **X** button to the left of the ID number in the **Configure TEAMS** dialog box.

When finished, click **OK** in the 'Configure *TEAMS*' dialog to save all changes.

C.6 Making Connections

A connection is an association between a port on the Control Processor card of a particular *TEAM* and a TCP port on the Format Server host. You can choose which output port number you would like of use, and this value becomes part of the URL of the audio stream.

As an example, if you make a connection and set the output port to 9000 on a machine called StreamHost, the URL for that stream will be:

<http://StreamHost:9000>

To make a connection, select File and Add Connection (refer to Figure 1). When you do, a new connection will appear with a unique channel number and some default values. To configure the connection, you need to:

- Supply the source *TEAM* number. This is the number that is assigned to the *TEAM* when you configure it.
- Supply the input port value. This is the port on the Control Processor card of the *TEAM* to which the *TEAM* is sending the data you wish to stream. For instance, to stream the data in the *TEAM*

that's on a connection from the network card to port 0A, you would choose 'A' as the input port for this connection.

- Supply the output port value. This is the TCP port number from which the data will be available for streaming on the host running the format server, and is appended to the host named after a colon in the URL.

Once you have configured all these values, you are ready to start the flow of data. Clicking the start button in the output column will cause the Format Server to synchronize with the *TEAM* and begin streaming the data. When the Output Status reads "Streaming Audio" the data is available on the output port.

When you start a connection, you cannot change any of its configuration values until you stop it again.

If you remove or change the associated connection on the *TEAM*, it is recommended you also stop and start the connection in the Format Server.

All connections made will be remembered and restored when restarting the Format Server. If the AutoStart option is set, they will also start to stream if they were started when the Format Server was last shut down.

C.7 Deleting Connections

When a connection is no longer needed, you can remove it permanently from the Format Server configuration by choosing **File** and then **Delete Connection**. A window will appear asking you for the channel number of the connection you wish to delete. This number is listed in the left-hand column of the main Format Server window. Simply select the channel and click "Delete" to remove it. The channel numbers of other connections will not change.

You can select multiple channels at once by shift- or control-clicking them. When you click "Delete", all selected channels will be removed.

Deleted channels will not appear the next time the Format Server is started.

Appendix D— One Year Limited Warranty

MUSICAM USA, formerly known as Corporate Computer Systems (CCS) warrants to the original purchaser that each of its hardware products and all components therein contained will be free from defects in materials and/or workmanship for one (1) year from the date of purchase. Any warranty hereunder is extended only to the original purchaser and is not assignable.

In the event of a malfunction or other indication of failure attributable directly to faulty workmanship and/or material, MUSICAM USA will, at its option, repair or replace said device or components, to whatever extent it shall deem necessary to restore said device to proper operating condition.

Before returning a device for repair, the customer must call MUSICAM USA at (732) 739-5600 and obtain a **Return Authorization Number**. This number must be included with the customer's mailing address and telephone number when the product is returned.

Products must be returned to:

MUSICAM USA

670 North Beers St. Building #4

Holmdel, NJ 07733

U.S.A.

Attention: Warranty Repair : RMA# _____

During the first year after the date of purchase, all labor and materials will be provided without charge. There shall be no warranty for either parts or labor after the expiration of 1 year from the date of purchase.

Units must be returned postage pre-paid. It is recommended that the unit be insured and securely packed when shipped. Units returned which are out of warranty will be repaired or replaced (at the option of MUSICAM USA) and the customer will be charged for parts and labor at current rates.

Units will be returned to the customer after repair or replacement has been completed by carrier and method chosen by MUSICAM USA to any destination within the United States of America. Should a customer desire some other specific form of conveyance, or be located beyond the US borders, then the customer must bear the cost of return shipment.

The customer shall be solely responsible for the failure of any MUSICAM USA hardware computer product, or component thereof, resulting from accident, abuse or misapplication of the product, and MUSICAM USA assumes no liability as a consequence of such events under the terms of this Warranty.

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