

SECTION 4 SPARES DETAILS

INTRODUCTION

Service support for this equipment is available at two levels - complete station or module replacement and component level repair. The 'Spares' that are available reflect this policy. However, the exceptions to this are the control module which has complete PCB assemblies available from Spares Sales, and the power amplifier, for which spare a PA control PCB assembly is available.

PCBs & COMPONENTS

Component parts and PCB assemblies are available through Spares Sales using the part numbers listed in this service manual.

Part numbers pertaining to individual modules are given in the module descriptions in Part II whilst those parts which form the shelf and backplane assembly are listed in this section.

ORDERING OF 'SPARES'

When ordering spares please quote the Description and Part Number of the item together with the equipment code number.

The right is reserved to fit alternative types of component with equal or improved performance to those quoted in the Parts List.

SPARE MODULES

The modules listed below are available on an exchange basis. Individual modules are ordered, via Consumer Services, using the module 12NC Part Number e.g. if a 24V DC version of the Power Supply Module (Part Number AT04878/03) is required Part No. 3513 578 00021 should be ordered.

Note:

Where PROMs fitted to modules contain customer specific frequencies the PROM should be removed and retained before the module is dispatched. It is essential that modules are packed in a manner that prevents damage in transit.

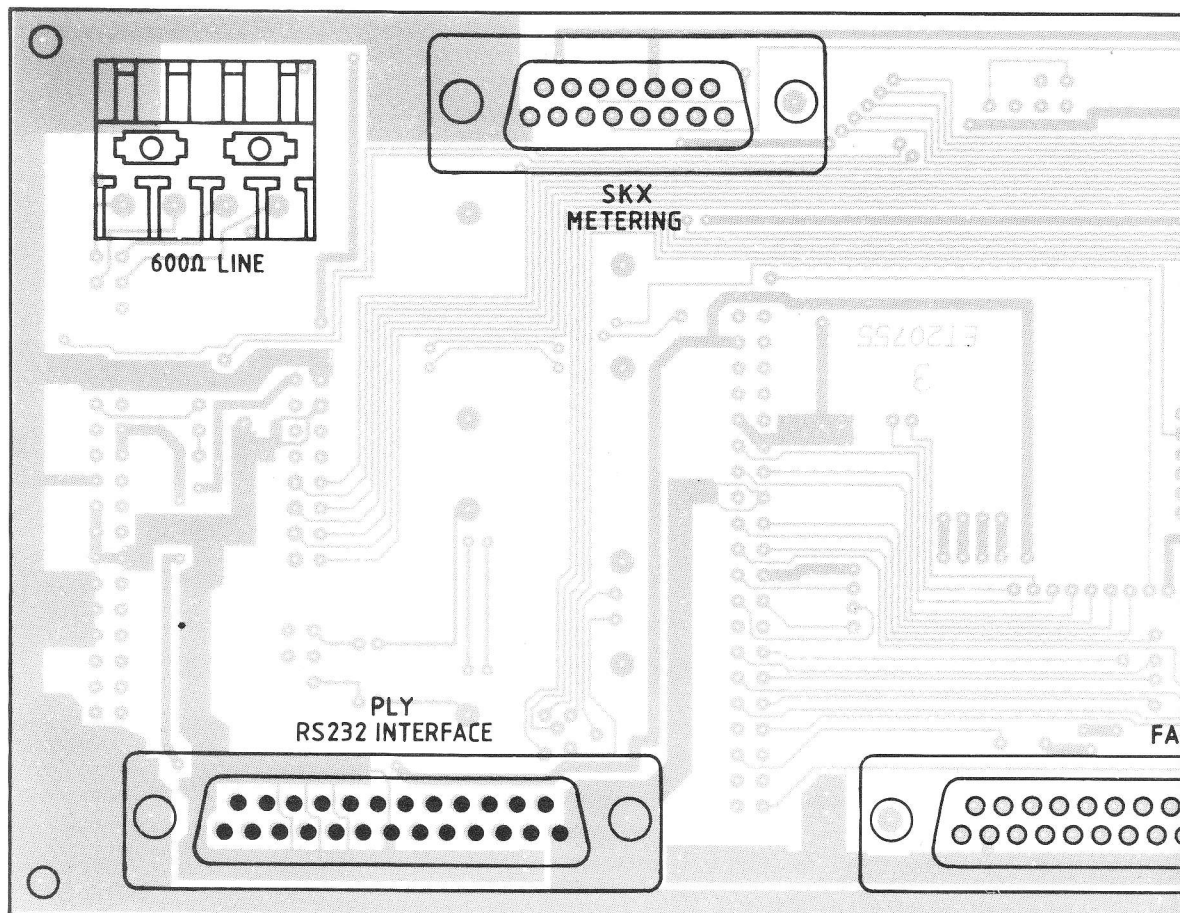
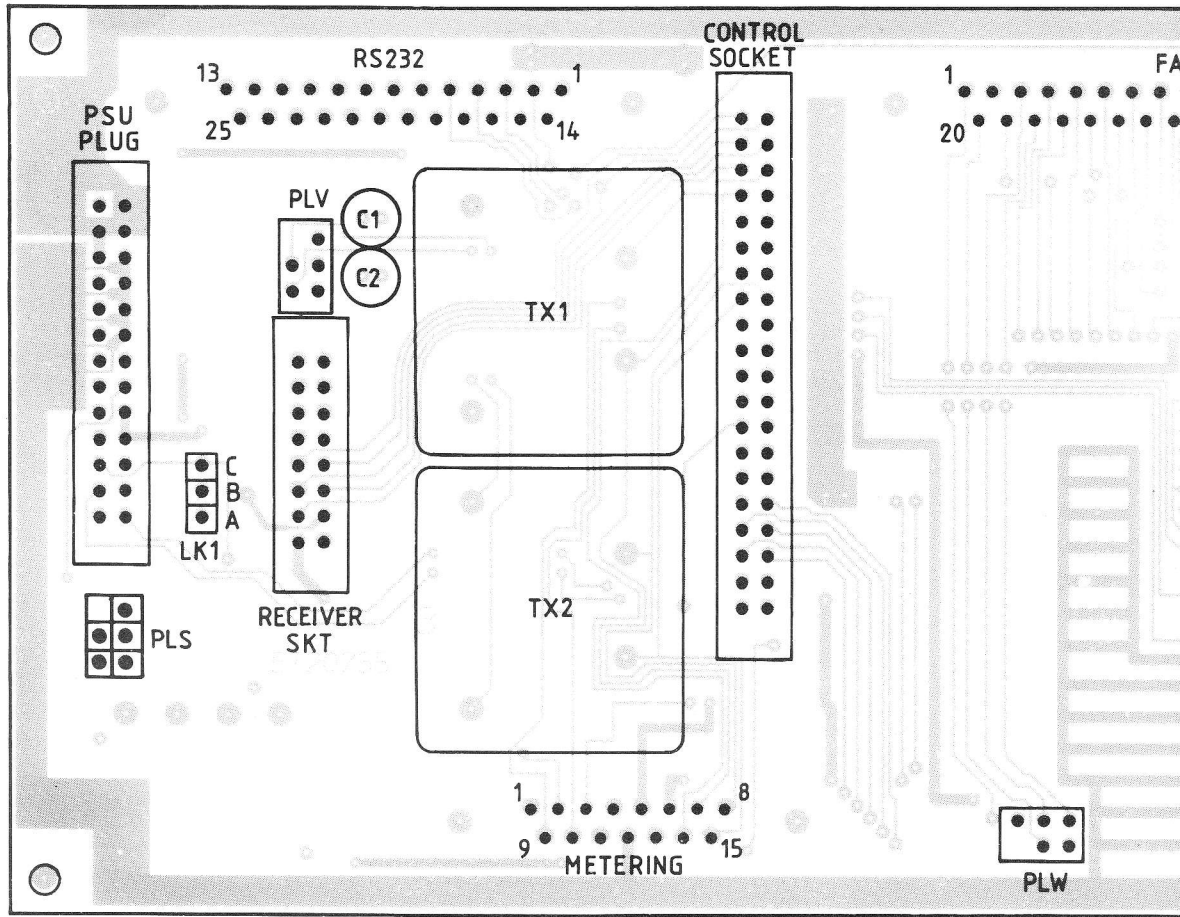
Module	Alpha-numeric No.	12NC No.
PSU AC 240V	AT04878/01	3513 578 00001
PSU AC 110-115V	AT04878/02	3513 578 00011
PSU DC 24V	AT04878/03	3513 578 00021
PSU AC 240V (Less Loudspeaker)	AT04878/07	3513 578 00031
PSU AC 110-115V (Less Loudspeaker)	AT04878/08	3513 578 00041
PSU DC 24V (Less Loudspeaker)	AT04878/09	3513 578 00051
Tx PA 50W E0 Band	AT04883/04	3513 578 00061
Tx PA 50W A9 Band	AT04879/02	3513 578 00071
Tx PA 50W B0 Band	AT04879/03	3513 578 00081
Tx PA 30W A9 Band	AT04874/02	3513 578 00091
Tx PA 30W B0 Band	AT04874/03	3513 578 00101
Tx PA 25W U0 Band	AT04882/06	3513 578 00111
Tx PA 25W T1 Band	AT04882/05	3513 578 00121
Tx PA 25W WM Band	AT04882/07	3513 578 00131
Tx Driver A9 and B0 Bands	AT04881/02	3513 578 00141
Tx Driver E0 Band	AT04881/04	3513 578 00151

Module	Alpha-numeric No.	12NC No.
Tx Driver T1 and U0 and WM Bands	ATO4881/05	3513 578 00161
Rx Module A9 Band 12,5kHz	ATO4880/02	3513 578 00171
Rx Module B0 Band 12,5kHz	ATO4880/03	3513 578 00181
Rx Module E0 Band 12,5kHz	ATO4880/04	3513 578 00191
Rx Module T1 Band 12,5kHz	ATO4880/05	3513 578 00201
Rx Module U0 Band 12,5kHz	ATO4880/06	3513 578 00211
Rx Module WM Band 12,5kHz	ATO4880/07	3513 578 00221
Rx Module A9 Band 25kHz	ATO4880/12	3513 578 00231
Rx Module B0 Band 25kHz	ATO4880/13	3513 578 00241
Rx Module E0 Band 25kHz	ATO4880/14	3513 578 00251
Rx Module T1 Band 25kHz	ATO4880/15	3513 578 00261
Rx Module U0 Band 25kHz	ATO4880/16	3513 578 00271
Rx Module WM Band 25kHz	ATO4880/17	3513 578 00281
Rx Module A9 Band 20kHz	ATO4880/22	3513 578 00291
Rx Module B0 Band 20kHz	ATO4880/23	3513 578 00301
Rx Module E0 Band 20kHz	ATO4880/24	3513 578 00311
Rx Module T1 Band 20kHz	ATO4880/25	3513 578 00321
Rx Module U0 Band 20kHz	ATO4880/26	3513 578 00331
Rx Module WM Band 20kHz	ATO4880/27	3513 578 00341
M80 Signalling Assembly	AT14920	3513 574 00621
Voting/CTCSS PCB Assembly	AT29061	3513 570 01251
Front Panel Assembly Control	AT14818	3513 574 00631
Control Module, 300-3000Hz, 2 Wire, Ext. Control, No Sel Call	ATO4872/01	3513 578 00351
Control Module, 300-3000Hz, 2 Wire, Ext. Control, Option Card	ATO4872/05	3513 578 00361
Control Module, 300-3000Hz, 2 Wire, M80 Sig., Tx/Rx + Chan Change, No Sel Call	ATO4872/06	3513 578 00371
Control Module, 300-3000Hz, 2 Wire, M80 Sig., Tx/Rx + Chan Change, Option Card	ATO4872/07	3513 578 00381
Control Module, 300-3000Hz, Ext. Control, Less 2970Hz Keytone, No Sel Call	ATO4872/08	3513 578 00391
Control Module, 300-3000Hz, Ext. Control, Less 2970Hz Keytone, Option Card	ATO4872/10	3513 578 00401
Control Module, 300-3000Hz, Ext. Control, Less 2970Hz Keytone, Option Card	ATO4872/11	3513 578 00411
Control Module, 300-3000Hz, Ext. Control, Less 2970Hz Keytone, Option Card	ATO4872/09	3513 578 00421
Backplane PCB	AT28996	3513 570 01221
Tx PA Control PCB	AT28991/01	3513 570 01241
Control Logic PCB	AT29023	3513 570 01261
Control Audio PCB	AT29024/01	3313 570 01271
Control Audio PCB, Less 2970Hz Keytone	AT29024/05	3313 570 01281

SHELF ASSEMBLY
MISCELLANEOUS PARTS LIST

Cct.Ref	Description	Part No.	Remarks
SUB-ASSEMBLIES			
	Power supply unit	AT04878/-	
	Receiver module synthesized	AT04880/-	
	Control module	AT04872/-	
	Transmitter driver synthesized	AT04881/-	
	Transmitter power amplifier	AT04874/-	30W A9 and B0 Bands
	Transmitter power amplifier	AT04879/-	50W A9 and B0 Bands
	Transmitter power amplifier	AT04882/-	25W T1, WM and U0 Bands
	Transmitter power amplifier	AT04883/-	50W E0 Band
	Front panel, blank	AT14907	
INSTALLATION ITEMS			
	Bracket Backplane Support LH	BT11433/01	1/Backplane
	Bracket Backplane Support RH	BT11433/02	1/Backplane
	Clip anti-vibration	FR31604	
	Cover Dust	BT15937	1/Backplane
	Guide rail	FR31656	
	Guide Rail Hd 220mm	FR31613	4
	Horizontal Rail Front	FR31615	2
	Horizontal Rail Rear	FR31614	2
	Insert Threaded	FR31679	2/Horizontal Rail Rear
	Label Unit	BT38209/01	1/Rear Panel Printed
	Panel Rear Printed	BJ30990	Backplane
	Panel Vent	BT23759	
	Plate Cover	BT20261	1/Rear Panel
	Plate Earthing	BT20259	1/Lh Backplane Support
	Side Plate 3 Unit x 220mm	FR31616	2
	Spring	BT50531	1/PSU
	Cover, protective	3513 901 10311	
	Label information	3513 903 71451	600Ω termination
	P clip 3/16"	QA00509	Lead - backplane PCB
	Cable tie	QA04427	BT lines connection
	Shelf support LH	BT26636/01	
	Shelf support RH	BT26636/02	
	Bagged items	AT36927	
	comprising:		
	Rack runner LH	BT24870/01	
	Rack runner RH	BT24870/02	
	Link assy	AT14874	4/control unit
	Fuse 7,5	FF06810	2/DC supply
	Fuseholder	FH02881	2/DC supply
	Scr st pan pozi M5 x 16mm	QJ11934/C)	
	Cage nut	QA16471)-	4/Rack - cabinet
	Fibre washer	CT87184)	
	Scr st tap pozi No6 x 9,5mm	QJ07697/X	4/runners - rack
	PCB assy backplane	AT28996	Not available as spare
	Cable assy 25 & 37-way D type	AT70160	1/control module
	Cable assy 25-way D type plug	AT70162	1/PSU
	Scr st tap pozi No4 x 6,5mm	QJ08227/X	3/rear panel - brackets, 4/protective cover
	Scr st tap pozi No4 x 9,5mm	QJ08243/X	1/rear panel - bracket
	Scr st pan pozi M2,5 x 6mm	QJ11945/B	2
	Scr st pan pozi M2,5 x 8mm	QJ11946/B	4/rear rails - support brackets
	Scr skt Hd M5 x 12mm Zn plate	FR31609	4
MATING CONNECTORS			
	Connector free rewirable	FS99060	AC Mains
	Cover connector D Type 15 Way	FC15761	Alarms & metering
	Cover connector D Type 37 Way	FC15762	Facilities
	Plug & lead assembly 24V DC	AT70179	24V DC
	Plug 15-way fixed	FP99013	Metering
	Plug 37-way D Type fixed	FP99015	Facilities
	Plug N free str 50Ω	FP99109	PA RF O/P; Rx RF I/P
	Socket fixed 15-way	FS99063	Alarms

Cct.Ref	Description	Part No.	Remarks
PCB ASSEMBLY BACKPLANE AT28996			
D1	Diode GP 1N4148	FV05808	
LK1-3	Link connectorector	FC99060	
T1,2	Transformer 600Ω	FT05324	
PLA-D	Plug PCB mtd str 2 x 3	FP99174	
PLE	Header str male 2 pos'n	FC00837/02	
PLR	Plug 15-way D type	FP99031	
PLX	Header rt angle 26 pos'n - ears	FP99243	
PLY	Plug 25-way D type	FP99032	
SKX	Socket D type fixed 15-way	FS99069	
SKZ	Socket D type fixed 37-way	FS99071	
C1,2	Capacitor 22 elec	PS99862	
	Hdr str less ears 16 pos'n	FP99221	1/Rx,1/Tx Driver
	Hdr str less ears 26 pos'n	FP99223	1/PSU,1/RCM,1/PA
	Hdr str less ears 40 pos'n	FP99225	1/Control
	Hdr str male 3 pos'n	FC00837/03	Lk1-3,1/TP1-2 Tx 600Ω
	Label mod state	BT18917	
	Lead assy 600Ω	AT70178	
	Spacer tapped	BT27241]	2/D type connectorectors
	Screw lock assy	FC15763]	
	Scr st pan 4/40 UNC	QJ08228/X	2/spacer - PCB



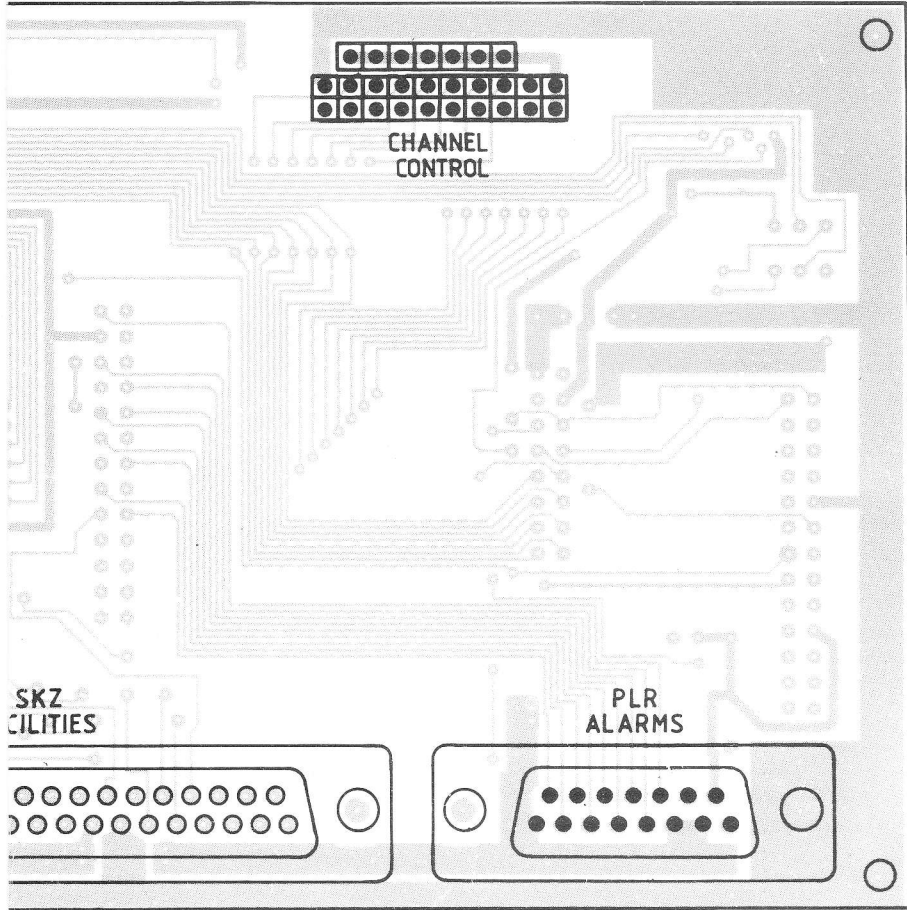
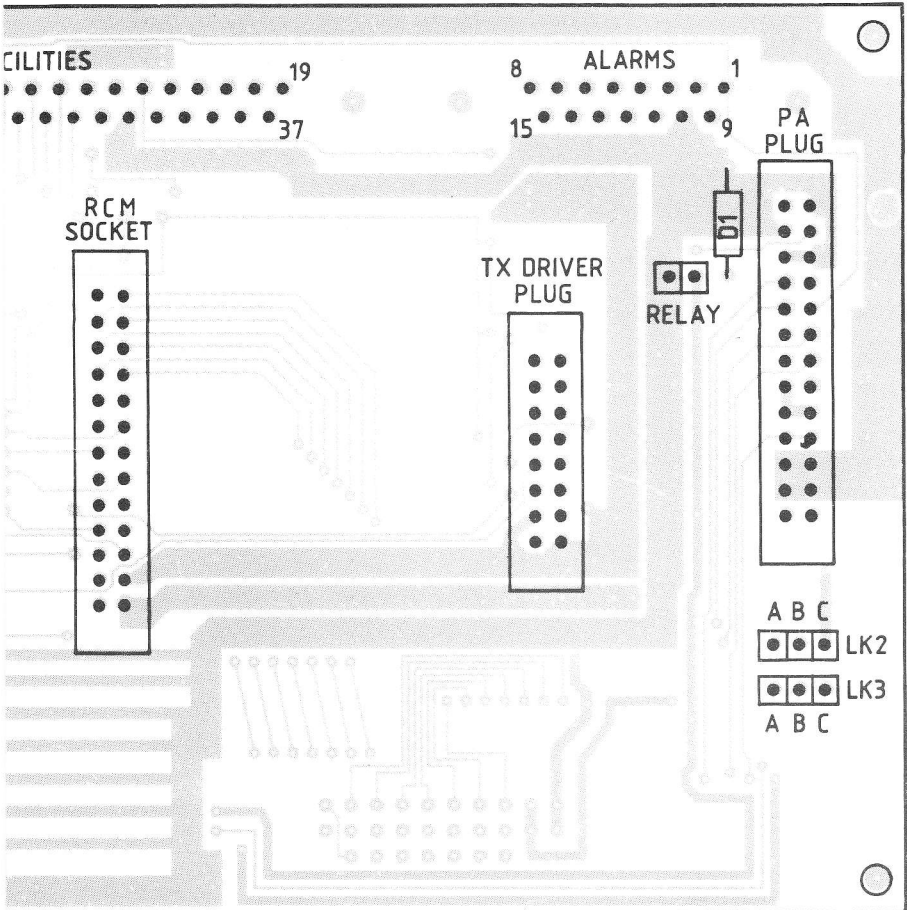
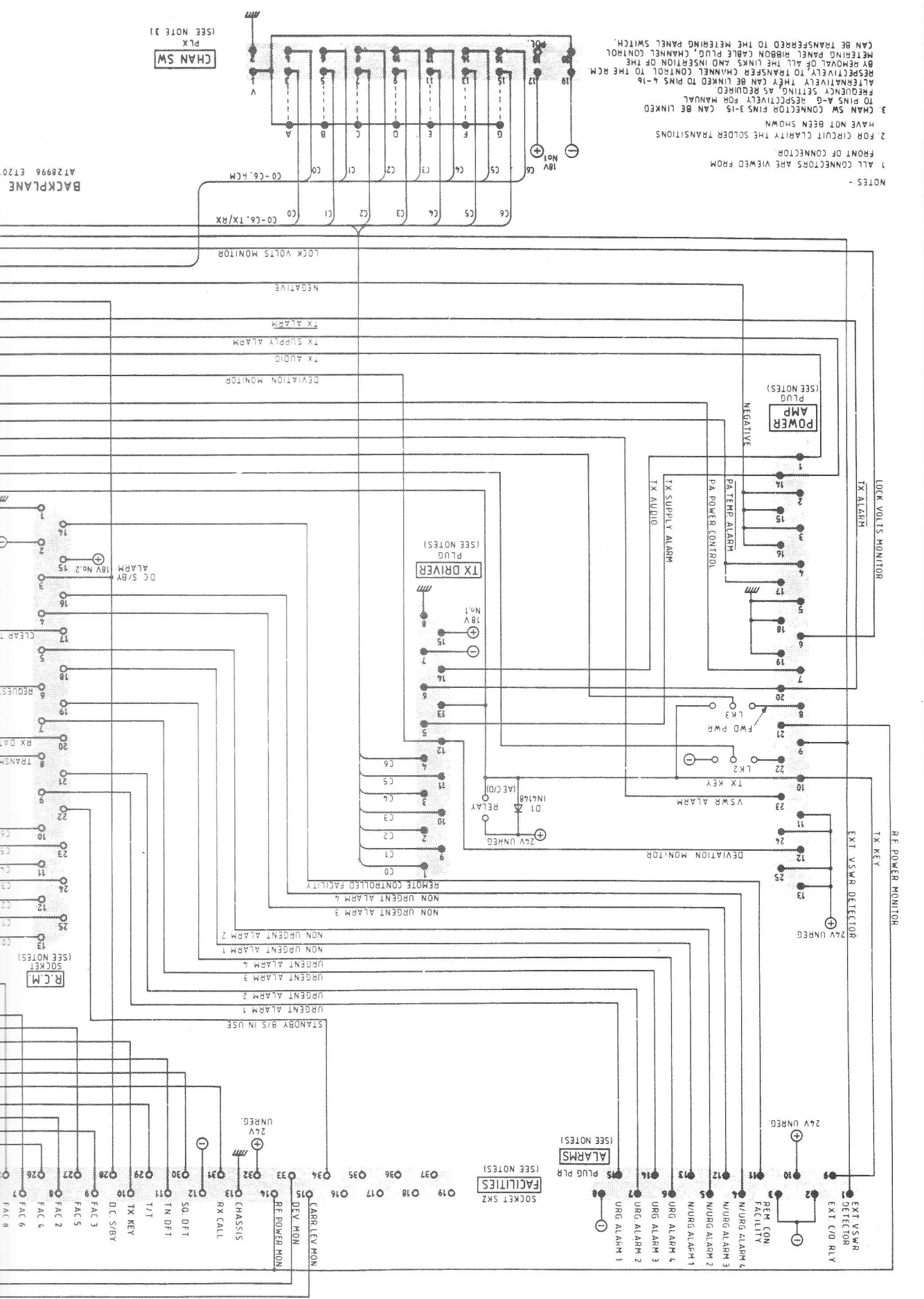


FIG. 4.1 BACKPLANE LAYOUT DIAGRAM



- NOTES -
- 1 ALL CONNECTORS ARE VIEWED FROM FRONT OF CONNECTOR
 - 2 FOR CIRCUIT CLARITY THE SOLDER TRANSITIONS HAVE NOT BEEN SHOWN
 - 3 CHAN SW CONNECTOR PINS 3-15 CAN BE LINKED TO PINS A-G RESPECTIVELY FOR MANUAL FREQUENCY SETTING AS REQUIRED ALTERNATIVELY THEY CAN BE LINKED TO THE RCM RESPECTIVELY TO TRANSFER CHANNEL CONTROL BY REMOVAL OF ALL THE LINKS AND INSERTION OF THE METERING PANEL RIBBON CABLE PLUG, CHANNEL CONTROL CAN BE TRANSFERRED TO THE METERING PANEL SWITCH.

CHAN SW
PLX
(SEE NOTE 3)

POWER AMP
PLUG
(SEE NOTES)

TX DRIVER
PLUG
(SEE NOTES)

FACILITIES
(SEE NOTES)

ALARMS
(SEE NOTES)

R.C.M.
SOCKET
(SEE NOTES)

DC S/BY
18V No.2

DC S/BY
18V No.2

NEGATIVE

LOCK VOLTS MONITOR

TX ALARM

TX SUPPLY ALARM

TX AUDIO

DEVIATION MONITOR

TX DRIVER PLUG

TX ALARM

PA TEMP ALARM

PA POWER CONTROL

TX SUPPLY ALARM

TX AUDIO

LOCK VOLTS MONITOR

TX ALARM

TX SUPPLY ALARM

TX AUDIO

DEVIATION MONITOR

TX DRIVER PLUG

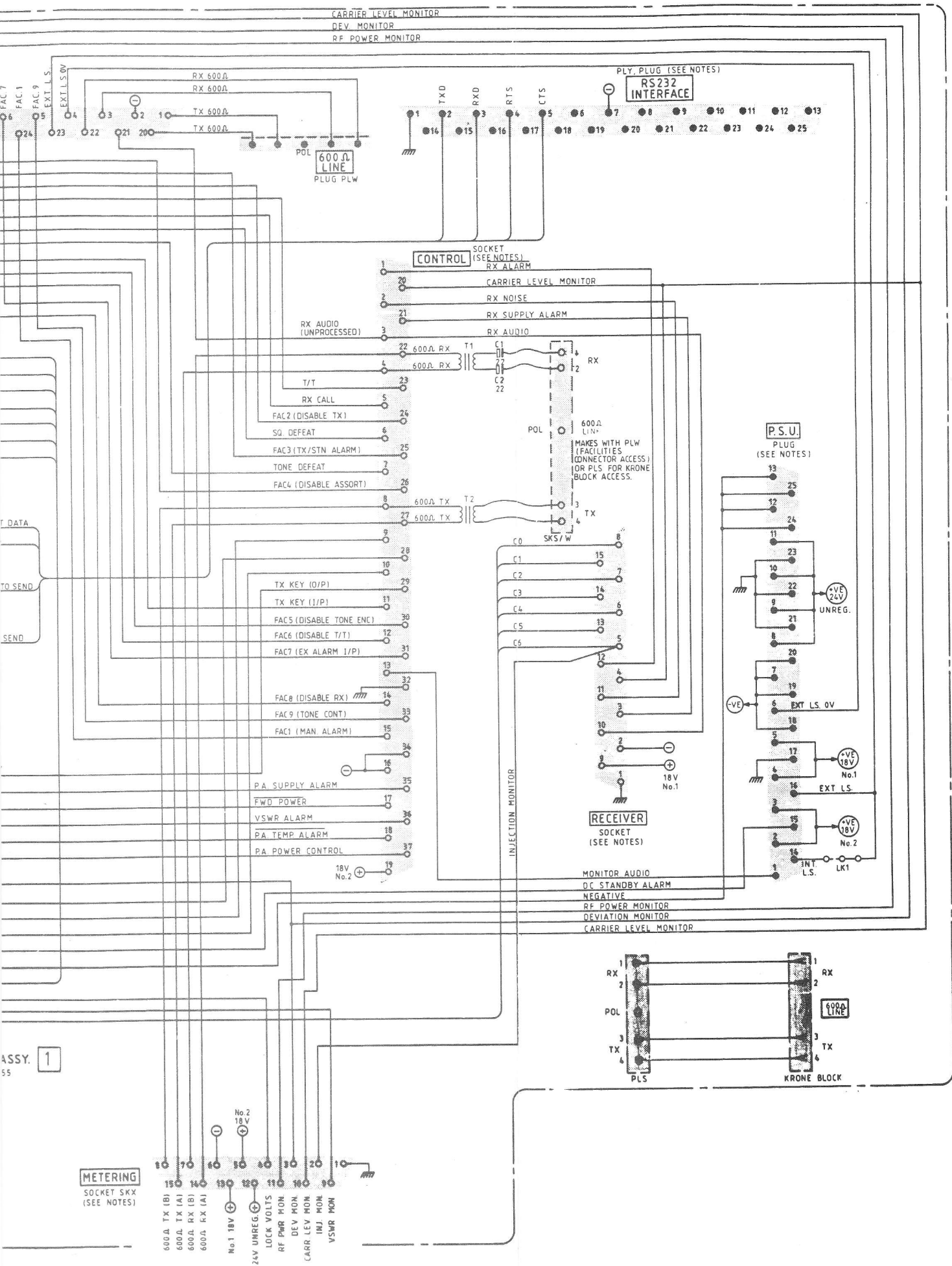


FIG. 4.2 BACKPLANE INTERCONNECTIONS