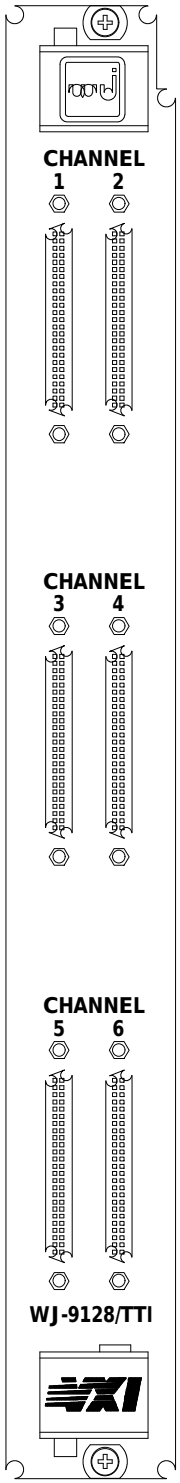
Developmental Specification

WATKINS-JOHNSON

September 1996



Interface Control Unit
WJ-9128/TTI

Features

- ❏ *Accepts existing TIDY TIPS receiver control interfaces*
- ❏ *Controls up to 6 WJ-9128 Tuners*

Description

The WJ-9128 TIDY TIPS Interface (TTI) Control Kit consists of two modules, the WJ-9128/TTI and the WJ-9128/SDB (Signal Distribution Board). The WJ-9128/TTI accepts existing TIDY TIPS control commands and translates them into the format required by the WJ-9128/RF (RF Converter Module) and the WJ-9128/LO (Local Oscillator Synthesizer Module). The WJ-9128/TTI is a one-slot VXI module that can provide independent control of up to six WJ-9128/LO and WJ-9128/RF pairs.

The WJ-9128/SDB provides the correct mating connectors between the TIDY TIPS system and the control ports of the WJ-9128/LO and WJ-9128/RF. The WJ-9128/SDB also provides a convenient interface for the Analog-to-Digital (A/D) clock and framing data connectors. See the TIDY TIPS system connection scheme.

The TIDY TIPS control interface consists of a 37-pin connector that allows an operator to set the gain and tuned frequency of the receiver. In addition, the TIDY TIPS interface monitors the operational state of the WJ-9128.

A dedicated gate array on the WJ-9128/TTI converts the TIDY TIPS control information into a usable format for the WJ-9128/RF and WJ-9128/LO. The WJ-9128/SDB provides a 15-pin control connector for each VXI module.

HEIGHT	**9.2 in (23.36 cm)**	**DEPTH**	**1.2 in (3.04 cm)**
WIDTH	**13.4 in (34.03 cm)**	**WEIGHT**	**5 lbs (2.26 kg)**

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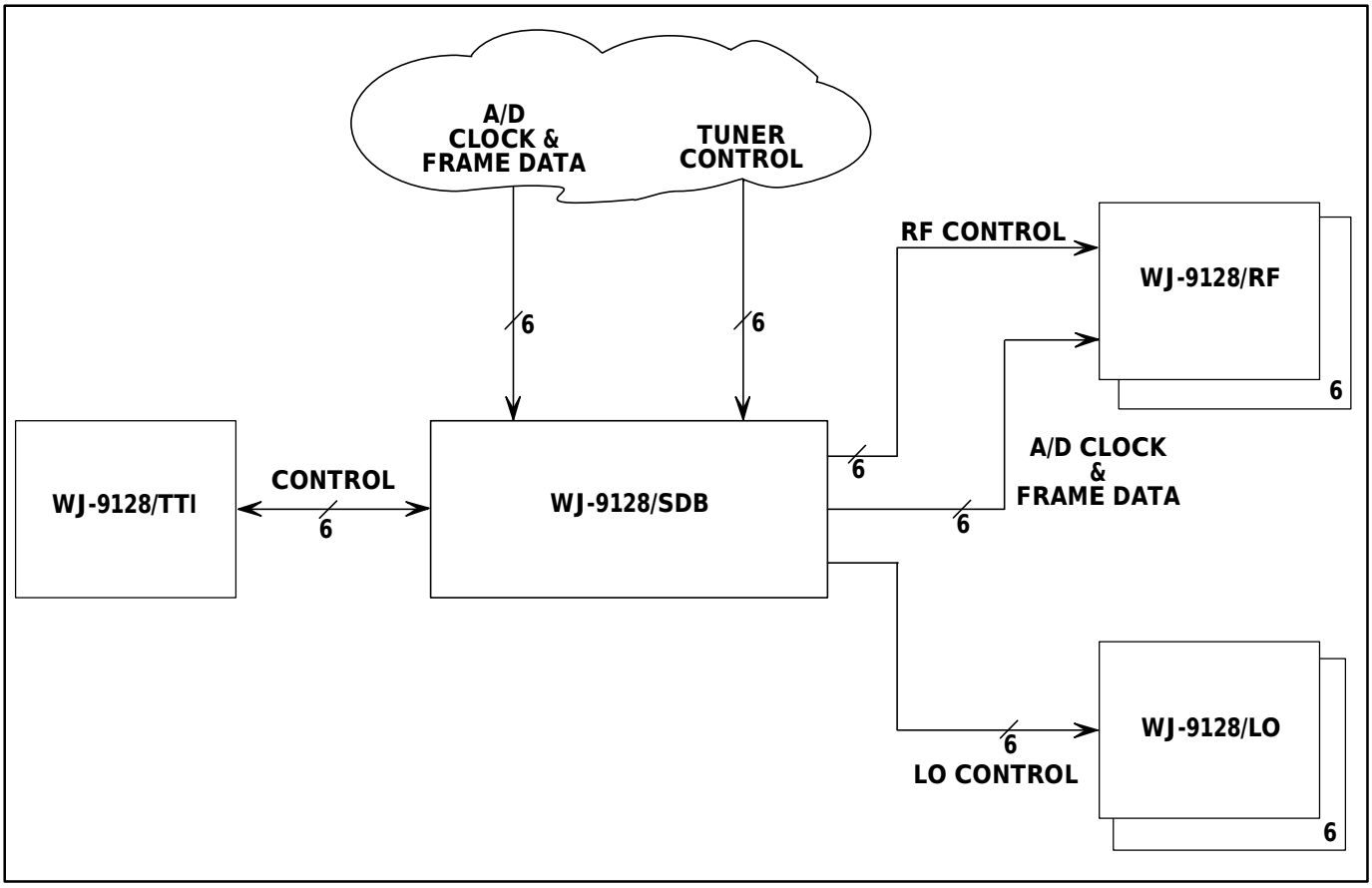
Specifications

Operating Temperature	**0° to 50°C**
Storage Temperature	**-40° to +70°C**
Humidity	**0 to 95%, non-condensing**
Altitude	**50,000 ft (1525 meters), non-operating** **24,000 ft (730 meters), operating**
Shock	**Designed to MIL-STD-810D, bench handling**
Power Consumption	**35 W**



TIDY TIPS System Connection Scheme

TIDY TIPS Control Interface Definition

Nomenclature	TT Control
Connector Designation	J1 through J6
Connector Type	MS27474E14B35P
Mating Connector	MS27473E14B35$
Connector Location	Rear Panel
Interface Standard	EIA RS-422, 120 Ohm Termination

Pin Number	Description
1	Signal Ground
2	Data 7 (+)
3	Data 7 (-)
4	Data 6 (+)
5	Data 6 (-)
6	Data 5 (+)
7	Data 5 (-)
8	Data 4 (+)
9	Data 4 (-)
10	Data 3 (+)
11	Data 3 (-)
12	Data 2 (+)
13	Data 2 (-)
14	Data 1 (+)
15	Data 1 (-)
16	Data 0 (+)
17	Data 0 (-)
18	Address 1 (+)
19	Address 1 (-)
20	Address 0 (+)
21	Address 0 (-)
22	Strobe (+)
23	Strobe (-)
24	Ack (+)
25	Ack (-)
26	A/D Temp (+)
27	A/D Temp (-)
28	Power Supply (+)
29	Power Supply (-)
30	Synthesizer Phase Lock (+)
31	Synthesizer Phase Lock (-)
32	2nd-LO Phase Lock (+)
33	2nd-LO Phase Lock (-)
34	Signal Ground
35	Shield/Chassis Ground
36	Not Used
37	Not Used

TIDY TIPS Control Word Definition

Address	Definition
Address 00	
Data 7	Not Used
Data 6	Not Used
Data 5	MSB of RF Attenuator value
Data 4	.
Data 3	.
Data 2	.
Data 1	.
Data 0	LSB of RF Attenuator value
Address 01	
Data 7	Not Used
Data 6	Not Used
Data 5	Not Used
Data 4	300-MHz bit
Data 3	10-MHz BCD digit of 1st LO
Data 2	10-MHz BCD digit of 1st LO
Data 1	10-MHz BDC digit of 1st LO
Data 0	10-MHz BCD digit of 1st LO
Address 11	
Data 7	1-MHz BCD digit of 1st LO
Data 6	1-MHz BCD digit of 1st LO
Data 5	1-MHz BCD digit of 1st LO
Data 4	1-MHz BCD digit of 1st LO
Data 3	0.1-MHz BCD digit of 1st LO
Data 2	0.1-MHz BCD digit of 1st LO
Data 1	0.1-MHz BCD digit of 1st LO
Data 0	0.1-MHz BCD digit of 1st LO

1st LO = Tuned Frequency + 219 MHz

WJ-9128/SDB Control Definition

Pin	Definition
WJ-9128/RF Module	
Pin 1	Clock
Pin 2	Strobe 1
Pin 3	Strobe 3
Pin 4	Strobe 5
Pin 5	Status Line
Pin 6	Status Line
Pin 7	LED 1
Pin 8	GND
Pin 9	Data
Pin 10	Strobe 2
Pin 11	Strobe 4
Pin 12	Status Line
Pin 13	Status Line
Pin 14	Status Line
Pin 15	LED 2
WJ-9128/LO Module	
Pin 1	Clock
Pin 2	Strobe 1
Pin 3	Strobe 3
Pin 4	Strobe 5
Pin 5	Status Line
Pin 6	Status Line
Pin 7	LED 1
Pin 8	GND
Pin 9	Data
Pin 10	Strobe 2
Pin 11	Strobe 4
Pin 12	Status Line
Pin 13	Status Line
Pin 14	Status Line
Pin 15	LED 2