TWSTFT Calibration Station

H/W Configuration

1. SATRE 2-channel modem with built-in monitor of external 1pps, 32 PN-codes @ 2.5 MChips
2. VSAT K-Star with 4 W RF with feeder
3. 1.2 m dia Dish (we operate with power levels as low as 0.5W)
4. SATSIM-type satellite simulator
5. All cables including a set of cables to connect to local 1pps and local frequency reference
6. Aluminum antenna stand (weights / loads needed localy to secure and fix stand). Height 1.5 m with support of SATSIM

Documentation

1. Interface Document (to be written, incl recommendations)
2. Operations Manual with detailed fotos how to set up. All cables / connectors marked.
3. List of material, incl. Hardware, cables, acessories
4. Calibration report form (to be filed in on-site)

Transportation

1. Packed in 3..4 aluminum boxes (Zarges)
2. Packaging suitable for air-, ground and road transport, i.e. shock resistant etc

Operations

1. System may be set-up and packed either by local staff or TimeTech staff (propose packed by local staff in any case)
2. If TimeTech people not present, remote monitoring and set-up support of the system will be performed by TimeTech via Ethernet LAN and an internet connection
3. Local installation support expected (1 person, 1 day)
4. Schedule: We should not press for tight schedule. Once installed, it may be operated for 1 week or longer. It is preferred, that packaging will be done by local persons.
5. Dedicated time-slot within the standard schedule shall be provided for this operation
6. System check prior to shipment at TIM and system re-check after receiving hardware back at TIM using SATSIM

Warranty / Maintenance

1. Included in costs
2. Spare parts stocked an TIM, incl VSAT / SATSIM and SATRE modules
3. Maintenance onsite by TimeTech if repair (exchange of module) by local persons fail
4. System re-check at TimeTech after calibration trips
5. System is insured against transportation damage, if shipping is under TimeTech responsibility

Costs

1. Non-recurrent per site visited (independent of duration, max 1 month) $ 700
2. Per shipping activity under TimeTech responsibility $ 200 fixed *)
3. Shipping costs   actual shipping costs *)
4. TimeTech personnel on-site $ 850 / day **)
5. TimeTech personnel travel   actual travel costs ***)

Availability: April 2003 following a general go-ahead from the TWSTFT group (statement is of course non-binding to members of the group)

*) does not apply, if shipping is initiated by user. In such case, material must be insured by user.

Examples: 1 shipment within Europe (land transportation) $ 600 .. $ 1100 one-way
            Air transport to Taiwan $ 1400 (one-way, actual costs)

**) does not apply if activity performed by local personnel
***) air travel: VSL €700, NPL, IEN, ROA approx. €1400 etc.
of course looking for best fares, but my last trip to Roma unfortunately was €1400

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The following are 2 cost examples for trips within Europe.

It is proposed to divide costs by the number of participting sites, i.e.

3 sites in 1st Example, 4 sites in 2nd example

A binding fixed price offer will be made as soon as details about a campaign are agreed.

Example 1: TIM-VSL-NPL-PTB-TIM
       Minimum involvement of TIM
       All transports organised by TIM

		amount [$ or €]
Shipping TIM to VSL	nonrecurrent	200
	shipping	600
Set-up by TIM	travel	700
	1 day on-site	850
Operation at VSL		700
Shipping VSL to NPL	nonrecurrent	200
	shipping	700
Operation at NPL		700
Shipping NPL to PTB	nonrecurrent	200
	shipping	800
Operation at PTB		700
Shipping back to TIM	nonrecurrent	200
	shipping	600
	Total:	**7150**
	per site	**2383**

Example 2: TIM-PTB-VSL-NPL-ROA-PTB-TIM
TIM involved at all sites
All transports organised by TIM

		amount [$ or €]
Shipping TIM to PTB	nonrecurrent	200
	shipping	600
Set-up by TIM	travel	150
	1 day on-site	850
Operation at PTB		700
Shipping PTB to VSL	nonrecurrent	200
	shipping	600
Set-up by TIM	travel	700
	1 day on-site	850
Operation at VSL		700
Shipping VSL to NPL	nonrecurrent	200
	shipping	700
Set-up by TIM	travel	1400
	1 day on-site	850
Operation at NPL		700
Shipping NPL to ROA	nonrecurrent	200
	shipping	700
Set-up by TIM	travel	1100
	1 day on-site	850
Operation at ROA		700
Shipping ROA to PTB	nonrecurrent	200
	shipping	1000
Set-up by TIM	travel	150
	1 day on-site	850
Operation at PTB		700
Shipping PTB to TIM	nonrecurrent	200
	shipping	600
Total:		**16650**
per site		**4162,5**

Example 3: TIM-PTB-VSL-NPL-ROA-PTB-TIM
TIM involved at PTB once only
All transports organised by TIM

		amount [$ or €]
Shipping TIM to PTB	nonrecurrent	200
	shipping	600
Set-up by TIM	travel	150
	1 day on-site	850
Operation at PTB		700
Shipping PTB to VSL	nonrecurrent	200
	shipping	600
Operation at VSL		700
Shipping VSL to NPL	nonrecurrent	200
	shipping	700
Operation at NPL		700
Shipping NPL to ROA	nonrecurrent	200
	shipping	700
Operation at ROA		700
Shipping ROA to PTB	nonrecurrent	200
	shipping	1000
Operation at PTB		700
Shipping PTB to TIM	nonrecurrent	200
	shipping	600
	Total:	**9900**
	per site	**2475**